Accelerator Physics Talks at ASAC

- AP Overview – Henderson
- Front End Beam Commissioning Results - Aleksandrov
- Applications Programming – Galambos
  - Emphasis on commissioning: archiving, save/restore, etc.
  - Plus usual global database and Aps programming progress
- HEBT-Ring-RTBT Accelerator Physics Progress – Fedotov
- Understanding Space Charge and Controlling Beam Loss in High Intensity Synchrotrons (Thesis talk) – Cousineau
  - ORBIT benchmarking
- ORBIT Plans and Update – J. Holmes

ASAC Recommendations for Accelerator Physics

- We encourage the commissioning team to take advantage of a unique opportunity to understand the Front End beam before the first DTL tank is installed…MEBT chopping measurements with DC chopping.
  - We have the measurements we have (Alexandrov)
- Fast Feedback: One possible use..would be control of the position and angle of the H- beam on the stripping foil, and an evaluation of such a system is recommended.
  - Need to say something: Raparia, Henderson, Galambos…
- Repeat simulations of the evolution of longitudinal phase space in the presence of space charge, impedances, and for realistic distributions that are not necessarily smooth and uniform
  - Done: Danilov and Holmes

ASAC Recommendations for Accelerator Physics

- The study of collective effects should continue…measurement of the RF cavity coupling impedances are recommended, and impedance QA should be integrated into the engineering design
  - Refined RF measurements in fall, update in Alexei's talks
- …the electron cloud instability is a difficult topic, and the study will have to continue
  - Update in Alexei's talk
- Studies of beam halo development should continue: The aims should be i) obtaining estimates of the beam loss pattern around the ring, ii) how this is expected to change in presence of machine errors, iii) effective use of adjustments and flexibility already included in baseline.
  - Sarah and Jeff for collimation, loss pattern
  - Alexei for resonance correction

ASAC Recommendations for Accelerator Physics

- A good effort has been made to develop…ORBIT. This effort should continue. The next effort will include various error effects….followed by simulation engine for e- cloud.
  - Jeff will address
- Strongly urged to benchmark ORBIT code against experiments and other simulation codes.
  - Sarah and Jeff's talks

ASAC Timeline

- Tues Feb. 11 – Today
- Tues Feb. 18
- Tues Feb. 25 – Next AP Video
- Tues March 4 – ASAC Dry Runs
- Wed March 5 – Presentations submitted by COB
- Monday March 10 – Wed March 12: ASAC Review